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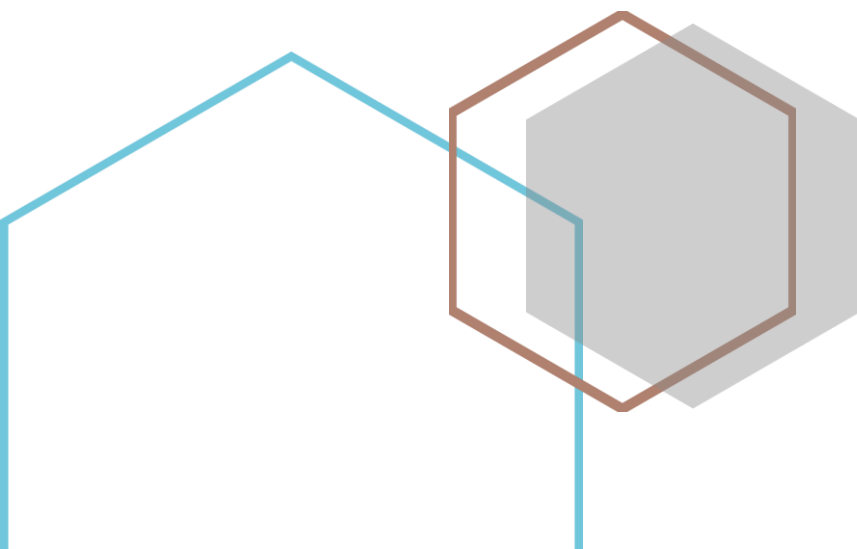


INTRODUCTION TO DESIGN THINKING

Learning Module

Integrating Talent Development into Innovation Ecosystems in Higher Education

586227-EPP-1-2017-1-BG-EPP



The Design Thinking Introduction module assists learners in developing an understanding of Design Thinking as a concept, learning about the process, methods and tools used, and understanding how we can arrive at a solution to a given problem through the Design perspective. The module is intended to enhance the innovation potential of the learners and the university as a whole.

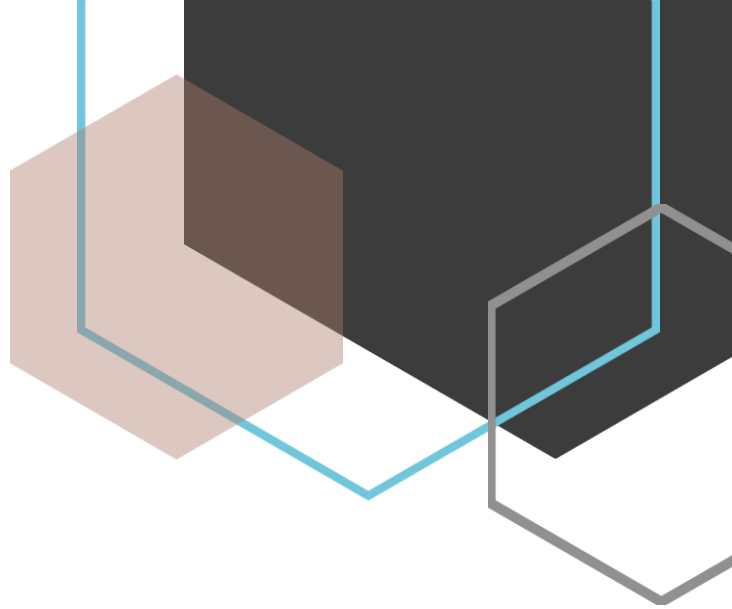
Table of Contents

Introduction/ Syllabus	1
Introduction to Design Thinking	8
Design Research and Problem Framing	13
Idea Generation and Co-creation	19
Feasibility, Usability Testing and Pitching	24

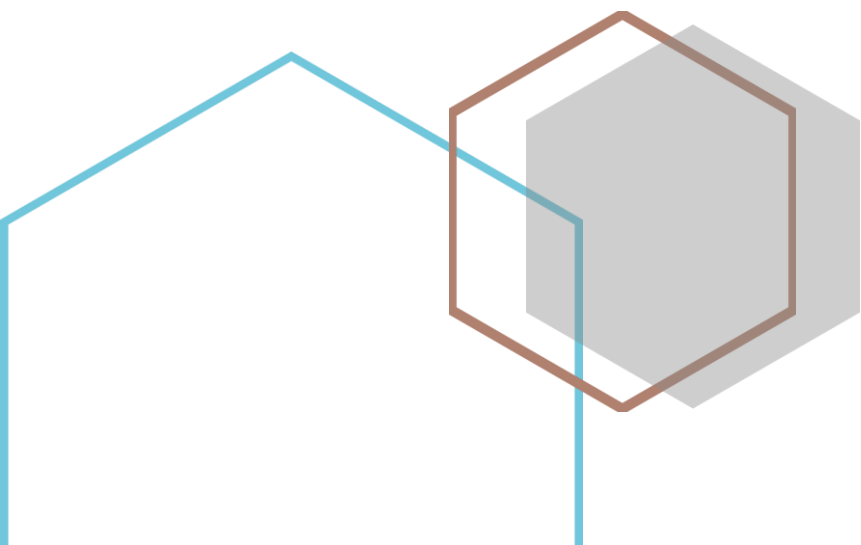


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Introduction/ Syllabus



AIM OF THE MODULE

The Design Thinking Introduction module assists learners in developing an understanding of Design Thinking as a concept, learning about the process, methods and tools used, and understanding how we can arrive at a solution to a given problem through the Design perspective. The module is intended to enhance the innovation potential of the learners and the university as a whole.

WHY DESIGN THINKING

Design thinking is a problem-solving process of prioritizing the customer's needs above other factors. It relies on information accumulated by observing people's interactions with a product, service, their environment, etc. It involves observing with empathy and employs a hands-on iterative approach to creating innovative solutions.

Design thinking is "human-centred", which means it revolves around the customers' behaviour as they engage in different ways with their surroundings. It is an iterative process which works through continuous reflection and iteration, based on previous actions. It builds one idea over the other, and hence there is no specific end-to-end process which can be used as a formula for problem solving. It differs from case to case and depending on the people involved.

Rather than being a traditional problem-solving method - a linear process of problem identification followed by coming up with a solution - Design Thinking is more of an iterative approach. It focuses on constantly responding to the evolving needs of the customer. It is less about arriving at a single solution, and more about an evolving thinking process responsive to customer needs.

TARGET GROUPS

The target groups of this module are higher education students, teaching staff and research and development staff. The module also invites stakeholders to take part in various exercises performed in the learning process.

OVERALL STRUCTURE AND THE SPECIFIC LEARNING AIMS OF THE MODULE

The Design Thinking Introduction module consists of four lectures organised in a constructive manner. They follow the Design Thinking process steps. The module starts with an introductory lecture which first explains the concept and its relevance to in society and then shows how it is different from other approaches. The next lecture talks about problem framing and introduces the basics of Design research. This is followed by a lecture of idea generation and the concept of co-creation.

It will discuss about the ways of idea generation. The next lecture will be on the importance of user testing and working on the feedback. It would be explaining about how to effectively pitch the Design idea.

LECTURE OUTLINE

Lecture 1: Introduction to Design Thinking

The aim of this lecture is to provide background knowledge on Design



Thinking as an emerging concept and to explain its relevance in today's society. It aims to help learners understand the difference between Design Thinking and other approaches.

The lecture is divided into the following sections:

- Introducing the concept
- Explaining the need
- Showing how Design Thinking differs from other approaches
- Summary of key points.

Lecture 2: Design Research and Problem Framing

The aim of this lecture is to explain the importance of Design Research and how to find the right problem. It also explains various tools and methods to get started with conducting the Design Research and provides guidelines on how to frame a Design problem

The lecture is divided into the following sections:

- Introduction to Design Research and its methods
- Explaining the benefits of Design Research
- Problem framing and defining problem statement
- Summary of the key points.

Lecture 3: Idea generation and co-creation

The aim of this lecture is to develop and increase learners' competences of exploring new methods and techniques of Idea Generation. It also aims to convey the needs and benefits of stakeholder engagement in co-creation.

The lecture is divided into the following sections:

- Initiating the creativity phase
- Methods of idea generation
- Co-creation and stakeholder involvement
- Summary of the key points

Lecture 4: Feasibility, Usability Testing and Pitching

The aim of this lecture is to guide the learners in the final steps of a Design process and show them how to deliver an all-inclusive solution. It explains the importance of Pitching the idea and suggests what points to keep in mind.

The lecture is divided into the following sections:

- Feasibility, Usability Testing
- Pitching.

STRUCTURE OF THE LECTURES

GUIDELINES FOR THE DELIVERY OF THE MODULE

Each lecture is divided into six parts:

- Introduction to the lecture
 - The main content on the topic
 - Suggestions on further reading
 - Summary of key points
 - Exercises
 - References
-

This module can be delivered through blended or virtual training. The preferred option in blended learning as it encourages discussions and workshop activity in exercises. Discussions through practical examples and reflections are suggested besides the lecture content. Use any current topics and literature as adding to training. Use reflection after each part of the lecture.

The following method is suggested for blended learning:

- Pre-assignment task (self-study): getting acquainted with the topic
- Face-to-face sessions:
 - Start with discussing cases or examples and move on to the theory, continuously encouraging dialogue to increase self-reflection and form a deeper understanding of the topic. The professor/teacher can add more examples from his/her own country, referring to familiar companies (of any size) or current events
 - Exercises: group work using creative, practical and design thinking methods* is advisable for most exercises, as it would allow learners can ask for support if needed and learn from each other. This will prepare them for individual exercises. If possible, try to engage 'TT' office staff, start-ups, researchers or companies in the exercise workshops. You can organize additional workshops on real cases as the most advanced level of exercises.
- Homework
 - Exercises: some of the exercises can be given as homework
 - A test can be performed at the end of the module sessions in class or as homework. Use supportive feedback method.
 - Suggested reading as homework. The learners can also write a reflection piece after each lecture and share it with peers to exchange different perspectives.

The following method is suggested for virtual learning:

Use a virtual learning platform or create such for the module course. It



should enable online chats and discussions and delivery of the exercises. The exercises are to be delivered through the learning platform where the teacher can create assignments, upload examples and additional materials on the training platform. Platforms like the Miro real-time board can be used for conducting Brainstorming sessions and such. The main differences are:

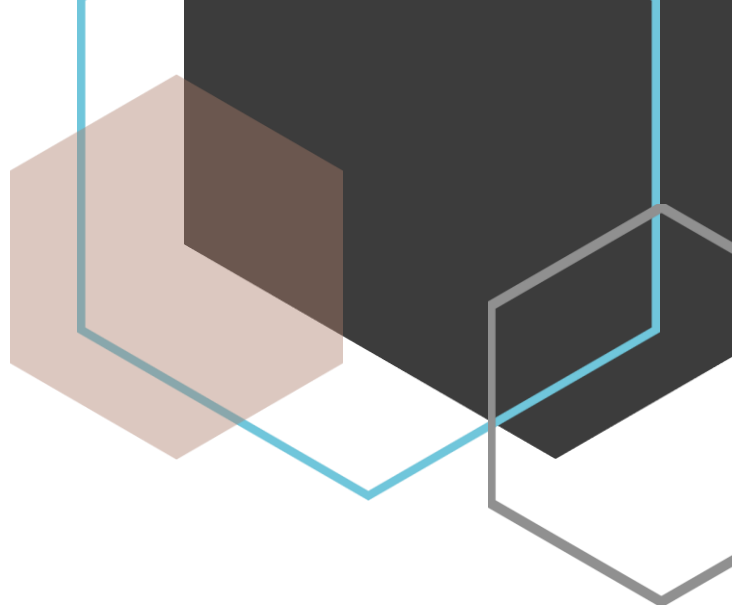
- Pre-assignment task (self-study): can be discussed at the first virtual session.
- Face-to-face sessions to be replaced by virtual sessions while using the same methods. This might require more individual processing of the exercises. Virtual group work is still encouraged, as well as real-life group work whose results the students can submit through the platform. Enable voting and chat possibilities. One option is to record the sessions and have all training delivered online, with chats only taking place on the learning platform.

* A guide to design thinking in education for higher education teachers: www.d-think.eu/uploads/1/6/2/1/16214540/dthink_toolkit_en.pdf

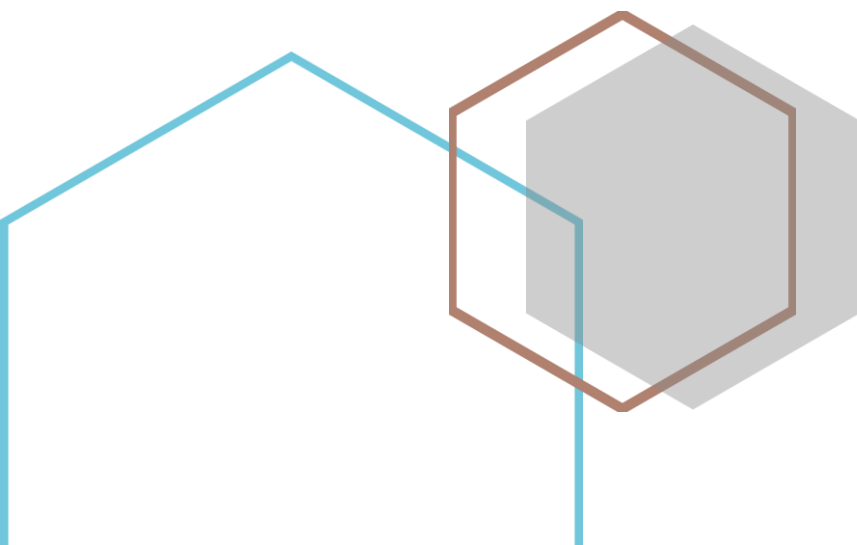
Reference links:

<https://www.wework.com/ideas/professional-development/creativity-culture/what-is-design-thinking>





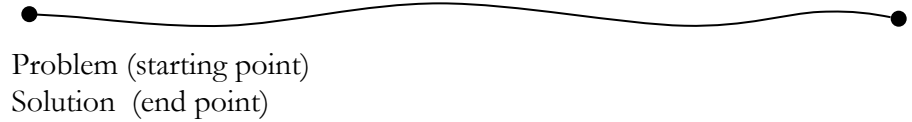
Introduction to Design Thinking



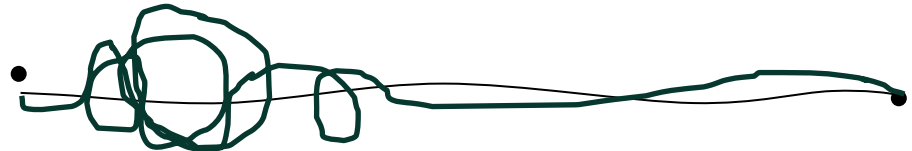
INTRODUCING THE CONCEPT

Design thinking is a non-linear iterative process for solving problems creatively.

What design process may seem like:



What Design process actually is:

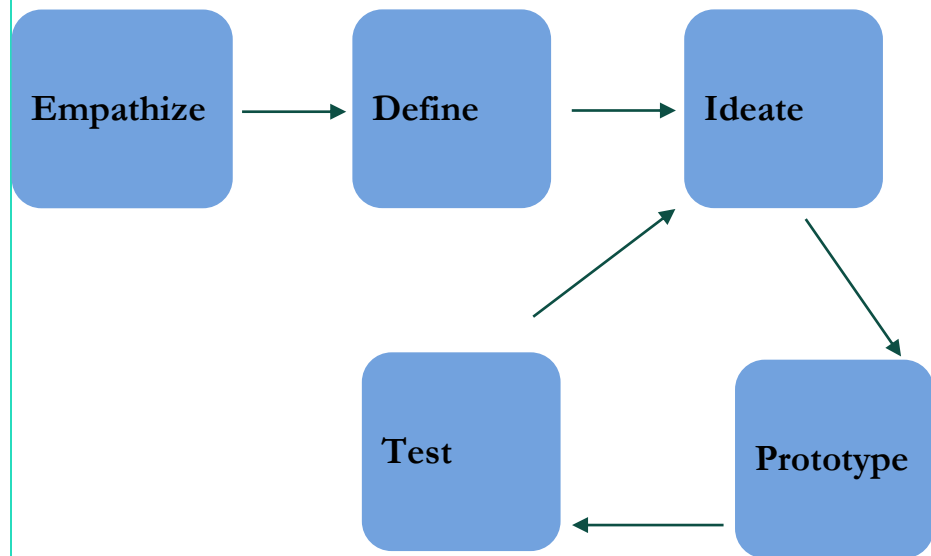


The Non-Linear Nature of Design Thinking

In order to give a tangible form to “Design” as a concept, Design Thinking is understood as a process of linear steps where each step follows another leading to a logical conclusion. However, as practiced in real life, Design thinking seems to be process that is more fluid in nature and does not follow a rigid structure. In order to get the most out of the practice, Design thinking is practiced in a non-linear way. For example, different groups within the team might start to carry their own research and then ideate based on their own insights. When the groups exchange their ideas they may build on other group’s insights and continue the process ahead. In some cases, after testing the prototype, they may discover the need of going back to ideation phase and so on. This may lead to having brainstorming session all over again and development of new prototypes. It is important to understand that these steps might or might not be in the sequence. They could occur in parallel or some phases might have to be repeated in some cases. Different projects have different needs and hence demand different approaches for execution. The five-stage process helps us to put form to the intangible nature of the design and create a guided structure to conduct the tasks.

Hence, even though Design thinking process is defined in 5 steps for understanding, it is not limited to the sequential order of its presentation.





Let's understand these 5 stages of the design process through one example of the given problem is the mobility of elderly people. With the following story through each phase, we will understand how the problem is defined and what thinking process is taken here in order to solve the identified problem. This example is taken from a YouTube video where they showed these stages in the form of a video.

1. Empathise:

The purpose of this phase is to conduct interviews with the target group, here being the elderly people, and learn from them the real problems that they are facing. Conversations will give an insight into the actual problem and their perception on the problem which might differ from what we see as an outsider. Interviews let us experience the stories on a personal level and are a step closer to being in the right direction. Ideally, this process should be done with more people of that group and will lead to understanding different perceptions on the same problem.

2. Defining the problem

In this stage, the interviews are reviewed and the various activities of various users are noted down in the web form. Going through these activities can help us understand the real problems. For example, some of the problems mentioned by the elderly people in the interviews are: going for a walk, meeting friends for a coffee, or just hanging by the bookstore. These make us think that the problem might not be about going out but more about staying in touch with people. These realisations can help us to frame the problem statement. Here it could be, "Some elderly people are afraid to be lonely and hence want to stay connected".

3. Ideate

Focusing on the identified problem area, the next step is to ideate solutions. In this stage the focus is not to come up with a perfect



solution but rather to identify many possible solutions. For example, creating a virtual buddy, online meet up for old people, friendly walking stick, etc. Put them down on paper so that they can be later shares with the target group who were interviewed.

4. Prototype

In this stage, based on the conversations with the elderly people and their views on the idea, evaluate which idea has the most potential and can go further. One idea can be a combination of multiple ideas put together. The most promising idea is then transferred into a low-fidelity prototype which is good enough to conduct the test.

5. Test

In this stage, take the prototype to the actual users and get their feedback. Feedback can be received in a verbal form by listening to their experiences of using the product, but also by observing their interaction with the product. Based on the feedback, re-iterate your ideas and alter the prototype.

Link to the YouTube video:

https://www.youtube.com/watch?v=r0VX-aU_T8

Design Thinking is gaining popularity due to the extent to which it reflects the users' needs while creating solutions. Design Thinking is used in solving wicked and complex problems in the world which earns it an important place in the industry.

What does Design Thinking do:

- Aims to solve a concrete human need

The Design Thinking approach helps the customers reflect on their journey of using a particular product and highlight the painpoints in the journey which they might have not thought of before. Design Thinking, being a human-centric way of thinking, helps in identifying the pain-points which might go unseen in many cases.

- Tackles intangible problems

Customers most of the time do not realize their exact problem while using the product or they are not able to verbalize it. Design Thinking can help to understand customer behavior through their actions and this can help in defining the intangible problems more clearly and work towards solutions.

- Innovative solutions

The Design process involves co-creating and collaborating, which involves building non each other's ideas. This in turn leads to creating innovative solutions as they are derived by combining different ideas. Using an iterative approach leads to creating innovative solutions which are beyond obvious.

HOW IS DESIGN
THINKING DIFFERENT
FROM OTHER
APPROACHES

- Makes functioning of organisations more effective

Design thinking involves creation of prototypes which in the end makes it possible to test their effectiveness.

- **Traditional approach**

In the traditional approach, a business proposal is evaluated based on two main aspects - viability and feasibility. In this approach, the benefits of the business proposal are taken into consideration (viability) and its practical implementation (feasibility). Using an evaluation matrix, the proposal that ranks higher in these 2 areas will be granted funding. Even as this seems like a very practical approach to solving problems, most of the initiatives taking this approach are not able to meet up expectations.

A few of the reasons are as follows:

- The factors of viability and feasibility are based on assumptions about the future
- The approach divides the various elements of one particular business and takes a silo-ed approach to thinking
- It is a lengthy process and stakeholders can see the solution only when it is completed. In this case, it might take years
- The questions that the approach focuses on are “How” and “What”.

- **Design Thinking approach**

Design Thinking is a human-centric approach to solving problems. It places the stakeholders’ needs at the center of the solution. These are supported by the factors of viability and feasibility and not vice versa. Stakeholders are involved in the process right from the beginning.

A few of the key tenets of Design Thinking:

- Empathy: Empathy is one of the core aspects of the Design Thinking approach. It involves listening to the stakeholders and their needs and understanding them. It requires curiosity and observing their behavior. Apart from actively listening to what they say, it is also very important to understand their thoughts and feelings by observing their actions. Empathy focuses on including thoughts and feelings while creating a solution.
- Exploring the problem space: In contrast to the traditional approach, where the process starts with already having a solution in mind, Design Thinking focuses on finding the right problem first. It takes into consideration the perspectives of various stakeholders while framing the problem in order to make sure that we are solving the right problem. Various possibilities of the problems are first identified with divergent thinking and then it is narrowed down with convergent thinking



SUMMARY OF KEY POINTS

to one problem to solve. In this way, the questions we focus on are “why” before thinking about “how” and “what”.

- Prototype: Another important aspect of this approach is that it is action-based. It believes in taking actions and building a prototype to test the solution rather than talking about the concept in the abstract. A prototype does not have to be high quality final piece of work, but it should give something tangible enough to test with the users and evaluate its usage in the real life.
- Stakeholder involvement: One of the most attractive aspects of this approach is that it involves stakeholders at each stage. Starting from defining the problem, to testing the solutions, stakeholders are involved at each stage. This is what makes this approach more inclusive and authentic.
- Iterate: This approach involves iterating and trying different solutions along the way. This helps in knowing at the early stages if the product is not going to work rather than learning at the end. It follows the principle of fail early, fail fast.

-
- Design Thinking is a non-linear approach to problem-solving.
 - Design Thinking is a five-stage process which includes: Empathize, Ideate, Create, Prototype, and Test. These stages are not necessarily in a sequential order. The flow of actions differs from project to project.
 - Design Thinking is a human-centered approach to solving problems and its process supports divergent way of thinking. It involves stakeholders throughout the whole process.
 - Design Thinking is different from traditional approaches in that it focuses on first answering the ‘WHY’ rather than ‘WHAT’ and ‘HOW’.
 - Mindsets for Design Thinking are human-centered, culture of prototyping, action-oriented, and collaborative in nature.

FURTHER READING

-
- <https://www.ideou.com/blogs/inspiration/experience-design-4-ways-to-make-your-next-event-unforgettable>
 - <https://www.ideou.com/pages/creative-confidence-podcast>
 - <http://5a5f89b8e10a225a44ac-cbed124c38c4f7a3066210c073e7d55.r9.cf1.rackcdn.com/files/pdfs/DevelopingDesignSensibilities.pdf>
 - <https://www.happinesmakers.com/knowledge/2016/1/9/7-creative-confidence-books-you-should-be-reading>
-



ASSESSMENT

Question 1: What does Design Thinking mainly focus on?	
<i>Answer 1</i>	Making profit
<i>Answer 2</i>	Creating beautiful products
<i>Answer 3</i>	Solving User needs
Correct answer(s)	3
Task 1: Based on your understanding, give 3 examples of how is design thinking different from other approaches	
<i>Answer 1</i>	
<i>Answer 2</i>	
<i>Answer 3</i>	
Task 2: Reflect in 200 words about your understanding of Design Thinking as a process	

REFERENCES

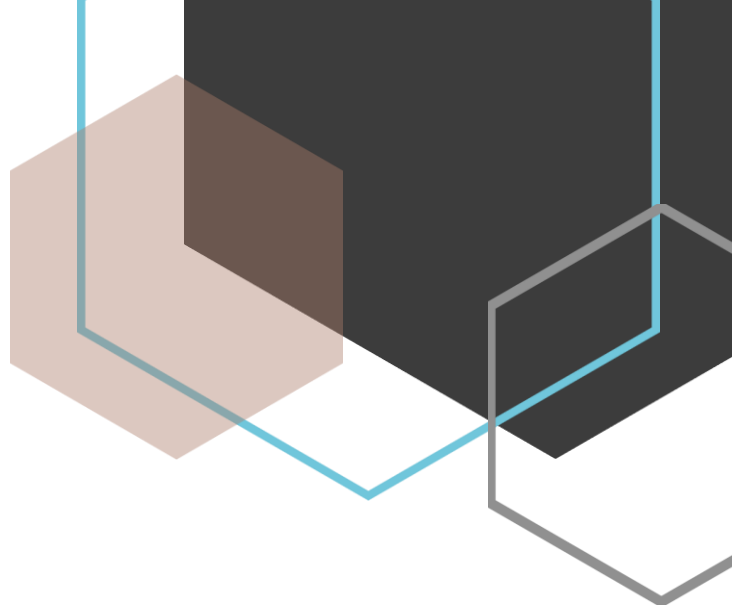
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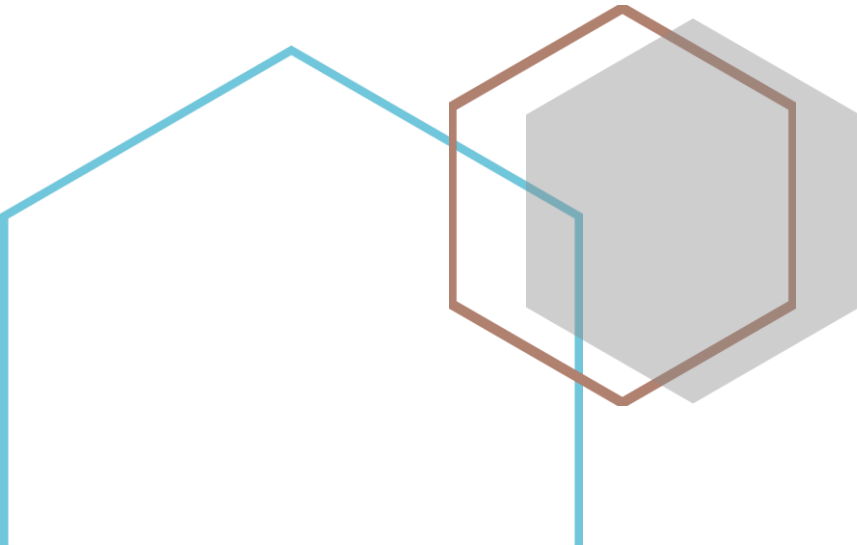
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Article taken from:
<http://mashhoodalam.com/2015/07/03/what-is-design-thinking-and-why-is-it-better/>





Design Research and Problem Framing



INTRODUCTION TO DESIGN RESEARCH AND ITS METHODS

Design research is the creation of evidence for the design solutions that might be made in the future. It is a base for making the choices and it is an element that connects the final solutions to their origins. It helps us to understand the complex nature of human behavior and to convert those insights into actions to improve design. Let us understand in detail what is design research is and how it works.

Design research is a customer-focused phenomenon which helps us discover the following:

- Finding our users
- Problems users are facing
- Relation of users to the Final product

Using qualitative and quantitative methods, the main goal of Design research is to find how a given product or a service is currently used by the customer. Now we might think that market research is done before starting to make the product so why is Design Research needed? To understand this, we need to understand the difference between market research and Design research. The main goal of market research is to compare the quantitative measures of purchase and sales, while design research focuses on the qualitative aspects of how customers might experience the created product and service. Market research is a very logical analysis of given sets of data and information, whereas design research is focused on answering the 'why' behind the process.

There are 3 kinds of design research methods that we shall discuss in this module:

- Primary

The Primary method of design research implies going and talking directly to the source (i.e. the customers) and collecting data from them. Examples of Primary research are interviews, surveys, questionnaires, focus group discussions. The Primary phase involves gathering mainly 2 types of information - exploratory and specific. Exploratory information means gathering data about the background whereas specific information is directed towards solving the particular problem identified in the exploratory phase.

- Secondary

The Secondary method involves collecting data from sources such as books, articles, internet sources, and validating the research by creating stronger evidence. It can help to create a base for the insights derived during the primary phase.

- Evaluative

Evaluative research is done in the later stages of the process as compared to the previous to method types. The Evaluative research method involves observing the users while they are still using the product and having them to think out loud about their experience of using the product.



In most cases, research starts with the primary methods and then moves to secondary. The Evaluative method is usually used in later stages.

Let us now understand some of the benefits of Design research and how it helps in value creation:

- It helps in creating meaningful solutions through fact-based research rather than assumptions: Sometimes, we believe that we already know who our customers are and hence do not need hear about their needs from them. However, even if we know our customers and have some knowledge of their needs, talking to them helps us to gain a different perspective on the problems and challenge our assumptions.
- Prioritization: When we are confused about the different features that a product can have and it is difficult to choose from them, talking to stakeholders can help to prioritize the features.
- Fosters empathy: Being connected with customers throughout the project makes us realize that we are designing for actual needs and there are thoughts and feelings of the people connected with this product. This helps to understand that we are designing for beyond the profit numbers and growth of the company.
- Satisfied customers: If we prioritize design research, it will help us identify user needs early in the process and will give us an opportunity to fix them. If they are not considered earlier, it might result in frustrated customers.

We cannot talk to customers every day and there is no one ideal customer that exists. Design research is the closest to what is in our power to do to include users. With every new customer, there is new learning.

PROBLEM FRAMING

Problem framing comes within the ‘Define’ stage of Design process. It follows the Empathize phase and it involves mainly translating observations and insights into actionable statement. In order to come up with a meaningful solution, it is very important to find the right problem, which means aiming to tackle the root cause and not superficial assumptions about the identified problem. As Albert Einstein has put it “If I had an hour to solve a problem, I’d spend 55 minutes thinking about the problem and 5 minutes thinking about solutions.”

While creating a problem statement, it is important for us to reflect the empathic behavior that we have been taking during the process. We need to focus on the user needs rather than highlight product specifications and business outcomes. Let us look into the points that can help us to create a meaningful problem statement:

1. Make it about the user:

The important aspect of creating the problem statement is to create it



WRITING PROBLEM STATEMENTS

around the user, making it more user-centric. For example: instead of using phrases starting with “we need to...” or “the business should...”, we can present it from the user’s perspective. For example, “The elderly people need...”

2. Keep it open

In order to allow creativity while coming up with ideas, it is important to keep the problem statement broad enough so as to include different perspectives and have a wide variety of ideas rather than limiting it by mentioning technical terms in the problem statement itself.

3. Ensure feasibility

While keeping it open, it is still important to make sure that the defined scope is manageable. If problem the statement is too open, it might try to tackle too many needs at the same time. Hence, it is very essential to prioritize the needs we focus on for the particular problem.

Now that we have understood the nature of the problem statement and its main elements, let us learn about how to create problem statements.

Coming up with a meaningful problem statement can be challenging as it requires us to fit all the identified needs and insights into one actionable statement. However, there are some methods that can help us in this process and we will explore them in this module.

One of the popular methods to frame a problem statement is space saturate and group. This involves collecting insights from the Empathize phase and presenting them all in one space. It leads to translating our thoughts into tangible action points. After putting it all together, the next step would be to cluster similar insights into categories. Grouping these findings will help us to understand the emerging patterns and themes.

In order to make sure we are tackling the right problem, it is important to ask the right questions. Asking right questions can be achieved with these 4 questions: Who, What, Why, Where?

- Who: understand who is actually experiencing the problem; the target users that will be the center of the problem statement
- What: understand what the problem is that they are facing. This information can be derived based on the pain points discovered in the Empathize phase
- Where: define the problem space; for example, where is this particular problem being faced
- Why: understand why is this problem important to solve and how does it help value creation.

Combining the information derived from these four questions can help us to get a direction in framing the problem statement. Another strategy is asking the five Why’s. Asking the Five why’s can help us to reach the



origin of the problem, i.e. the root cause. Let us understand this strategy in the example of “He suffers from loneliness”

1. *Why* is he suffering from loneliness? He does not meet his friends enough
2. *Why* is he not meeting friends? Because does not have enough time at the end of the day
3. *Why* is he not having enough time? Because he does not have work-life balance
4. *Why* is he not able to get work life balance? Because he does not have a defined schedule
5. *Why* does he not have a defined schedule? Because he is making himself available for his company, whenever needed without respecting his own space.

The root cause here is apparently distinguishing oneself from the work that one does. And the problem statement here might sound like: “Young working people need to understand professional and personal boundaries”.

SUMMARY OF KEY POINTS

-
- Defining the problem statement helps us to prioritize the needs we want to tackle in the project
 - Defining the problem statement involves a process of questioning that can lead us to the root cause of the problem
 - The process of defining the problem statement is a process where we can organize our research into actionable statements and move further.
 - The key strategy to finding the right problem is to first ask 4 Ws. What, Where, Who, Why, and then to dig into the 5 Whys that will help us to reach the root cause of the problem.
-

EXERCISES

- 1) Come up with 5 everyday problems around you
 - a. ...
 - b. ...
 - c. ...
 - d. ...
 - e. ...
- 2) Choose one problem, talk to one or two users who might be facing this problem and note down key pain points from their journey.

Insights from User1:



Insights from User2:

3) Recognise the 4 Ws in each case and go on to ask 5 Whys

A. The 4 Ws- What, Who, Why, Where

...

B. The 5 Whys

...

4) State the Final problem statement for the problem identified.

...

FURTHER READING

<https://matina-moreira.medium.com/design-thinking-finding-the-problem-5e689b9b8017>

<https://www.interaction-design.org/literature/article/stage-2-in-the-design-thinking-process-define-the-problem-and-interpret-the-results>

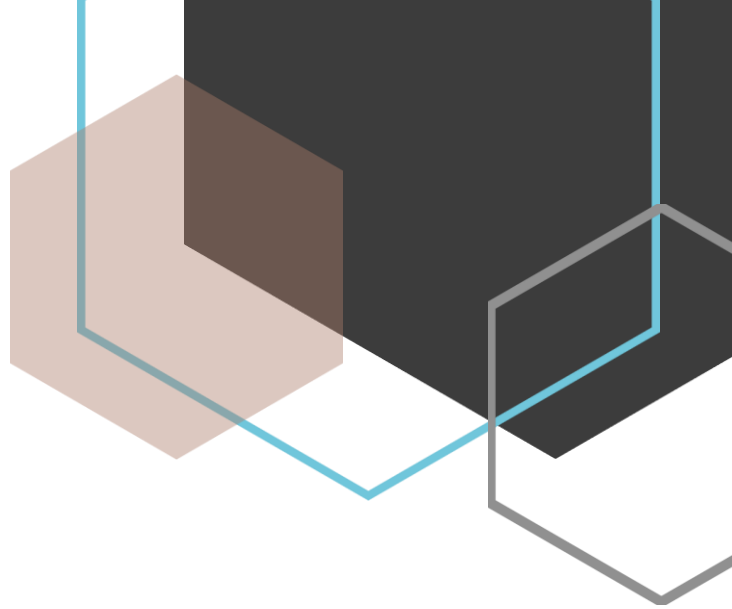
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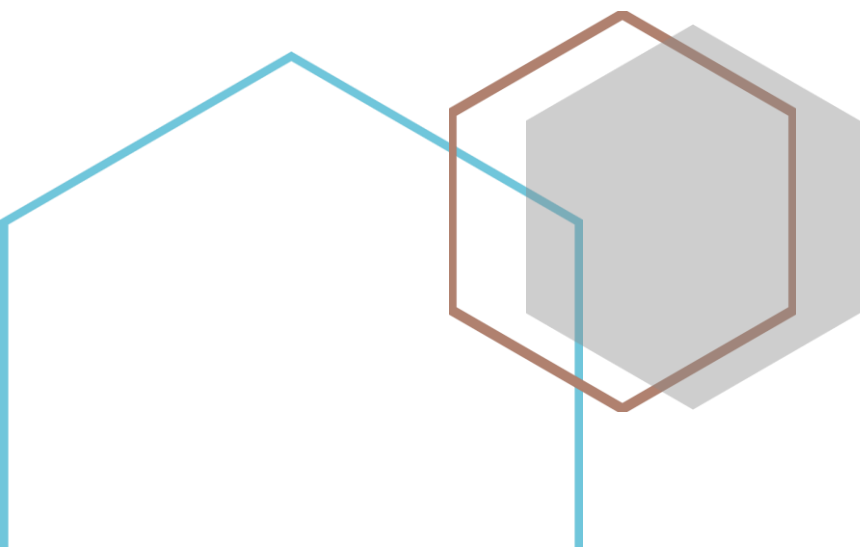
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<https://www.qed42.com/blog/defining-problem-statement-design-thinking>





Idea Generation and Co-creation



INITIATING THE CREATIVITY PHASE

Creativity plays an important role in the process of coming up with innovative ideas. A guided format can help our minds to push the limits and ideate beyond the regular way of thinking. Coming up with fresh ideas is essential for creating innovative solutions and for that it is necessary to have methods and tools that our brain can follow to think creatively.

Idea generation in its essence means the process of creating new concepts and visualizing and communicating them. The process of coming up with new ideas requires a conscious effort from our side as that is not the most traditional approach we take in everyday life. Let us discuss a few of the common methods that can help us in idea generation.

- The 5 WH method

As discussed in the section on Problem framing, the 5 WH method emphasises on asking enough questions in a particular direction to come up with a solution. It involves asking basic questions on a particular topic: Who, What, When, Why, How? This approach can help our brain think in a 360 degree format and get a new perspective on problems.

- Listening

Listening is one of the underrated methods of understanding a problem. We often take creative responsibility singlehandedly and try to come up with solutions that are only within our own capacities. However, listening to stakeholders and talking to people can provide a fresh view on the problem. If we do not directly engage in talking, we can get an insight into stakeholder opinions using a survey or a poll. Following discussions on social media pages about the topics can also help in gaining a new perspective on the problem.

- Brainstorming

Brainstorming can also be referred to as ‘thinking out loud’. This includes putting ideas together without filtering them. This method does not presuppose a right or wrong approach and it mainly focuses on collecting all thoughts on the topic so that we can reach a stage where we are able to think ideas that are beyond the obvious. After performing the brainstorming activity, the next task will be to go with the ideas that seem to have the greatest potential.

- Role playing

This method can help us in understanding the same problem from different angles. For example, for a day we could try to look at some problem from our colleague’s perspective and there is a possibility that we may come up with altogether different ideas. It might not lead us to results immediately but can help us in coming up with interesting conclusions and new ideas.

- Mind mapping

This technique often helps us to create a link between our thoughts and



ideas. It is one stage above brainstorming. At this stage, all ideas are linked and gathered around a central idea. It is usually a non-linear representation of connection of our thoughts and ideas.

How can we thematise these ideas?

We discussed the different methods and techniques that can help us in creating a variety of ideas. The next step would be to think about how we could analyse this data and group them to lead us to a direction.

Some of the commonly used methods are:

- Affinity diagramming

Affinity diagramming is collecting all the different ideas in one place, that could be a white board or a soft board with post-its, and then clustering them in particular themes and groups. Ideally, there would be 3-10 groups. Later, we could check if there is a possibility to establish a link or connection between these groups. This can help us to consider the different themes that have been identified in the research and prioritize based on the number of insights within each theme. This is mainly an offline method, but in case of remote working it can be carried out using software like Miro Real-time Board or Google Jam board.

Benefits: It involves collaboration, helps us to arrive quickly at themes, and it is visual which makes it easy to understand.

Drawbacks: some of the drawbacks are that it is difficult when there is a large variety or quantity of data.

- Journaling

Journaling reflects thoughts and processes while conducting research and highlighting the important data. They are similar to writing memos and are mostly done at the individual level.

Benefits: The approach encourages reflection through the process of noting down the details, and researchers can trace back the origin of the arrived themes systematically.

Drawbacks: It is difficult to perform this type of method collaboratively.

- Using software

There is software that is also used for this type of thematic analysis. One such example is the atlas.ti tool. The computer-aided software designs analyze the data and form visual elements such as mind-maps or word clouds. This coded data can be manipulated in different ways.

Benefits: It gives very thorough analysis of the data and it is possible to share with other members the raw data, along with the analysis.

Drawbacks: It requires knowledge on using the software and sometimes it might feel restrictive.

What is collaborative Innovation:

There are no two people who look at one problem in the same way due to differences in their experiences and backgrounds. Collaboration thus helps generate a greater variety of ideas by combining different perspectives. Collaboration also promotes all-inclusive solutions as they include different perspectives.

However, in order to get most out of the collaboration, it is important to connect with different people and not just people around us. This requires us to establish a network with a number of people and extend our reach to get to know new perspectives.

As we have understood the importance of collaboration, we can now look into the ways how we can engage the stakeholders. Below we explain the 5-step approach to engage the stakeholders:

1. Identifying the stakeholders

The first and foremost step in engaging the stakeholders is to identify them. This can be achieved by looking into the process and identifying who does it affect and what type of people are usually the users of the given product / service.

2. Listen to stakeholders

As discussed earlier in the module, listening is one of the most powerful tools to get insights from stakeholders. Giving them a platform and an opportunity to talk can help in getting to know their actual needs. Listening to them uninterruptedly will also help understand the extent to which the stakeholders are willing to contribute.

3. Exchange

After listening to stakeholders and understanding their expectations, we need to identify the best ways to collaborate and exchange ideas.

4. Integrate interests

To ensure that the collaboration is perceived as fair by both parties, it is important to discuss what is in it for both of these parties. It is important to discuss the gains for all the stakeholders involved.

5. Agree

After discussing the common goals and interests, it is important to create an agreement that will facilitate the stakeholders to plan and manage their involvement. Creating an agreement can also ensure commitment.

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- Idea generation is the first and essential step toward creativity and there are various methods that facilitate idea generation.
 - The next step after generating the ideas is to analyze them and organize them into themes using different offline and online methods, whichever is relevant for a particular case.

EXERCISES

- Co-creation is another method of creative idea generation. Co-creation requires establishing collaboration between different groups of people.

1) For a selected problem statement, place the problem statement into the centre and brainstorm about all the ideas that come to your mind related to that particular problem.

2) Out of all the brainstormed ideas, select 3 themes with which you would like to move further in solving this problem. In each theme, come up with 5 ideas.

Theme1:

Theme2:

Theme3:

3) After you have collected 15 ideas, combine the elements from all that you like and build it to one Final idea.

FURTHER READING

Mindmapping tools: <https://www.designorate.com/10-online-mind-mapping-tools-for-designers/>

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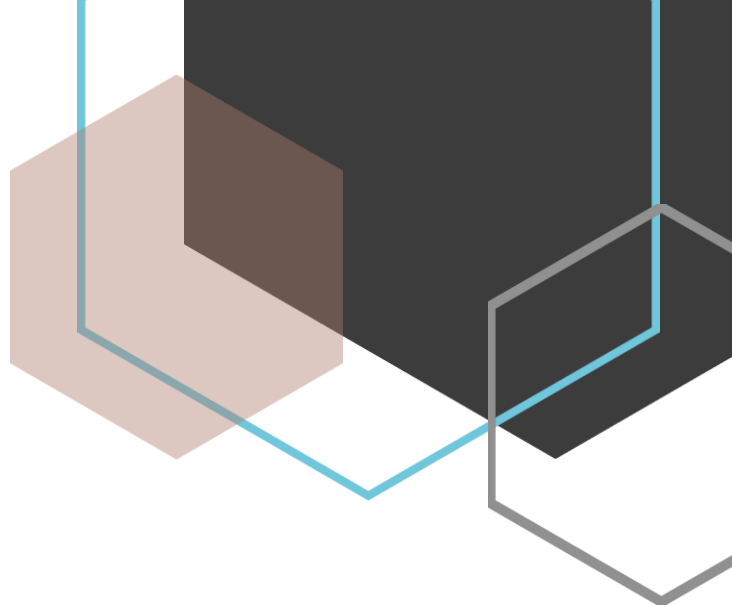
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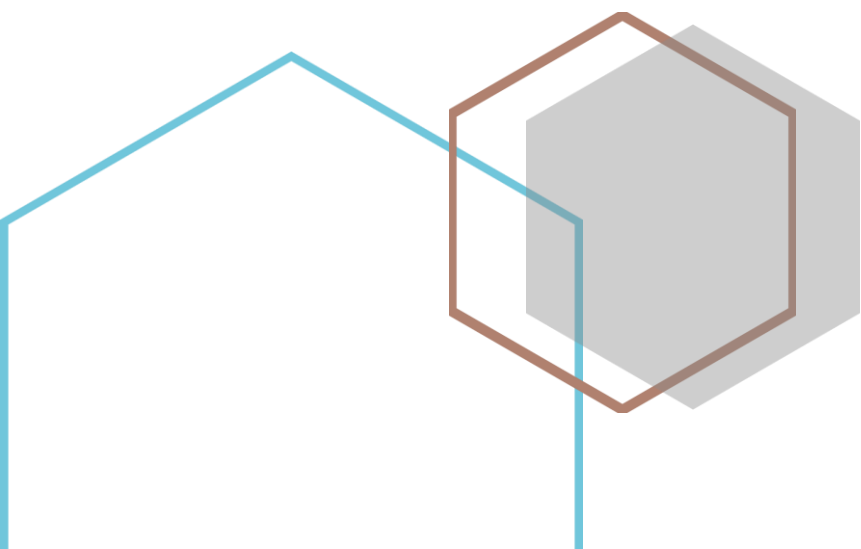
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Feasibility, Usability Testing and Pitching



FEASIBILITY AND USABILITY TESTING

The final step in the Design thinking process is to test the feasibility of the created solutions with the users. As rightly said by Steve Jobs, “Design is not just what it looks like and how it feels. Design is how it works.” Along with what it looks like, it is very important to observe how the Design solution is working and how well it is solving the user needs.

Feasibility testing is one of the great ways to ensure the working of a product or a service before the actual launch. It can help prevent complains or inconveniences that users might come across. Let us understand the concept of feasibility with an example of app testing.

Let us assume that the design solution is a mobile application. If we want to understand its impact on target users, we will conduct a feasibility test amongst the users. The test will examine the way they interact with the application, where they look first, how they navigate, etc. This may give us insights about issues that we might have not otherwise thought of. Feasibility testing is one of the simplest ways to identify the shortcomings of the design.

Usability in its definition and context comes under User Experience, i.e. how smoothly the user interacts with the product. Some of the qualities of Usability mentioned by Jakob Nielsen are:

Effective: The extent to which it accurately serves the user needs

Efficient: How quickly and accurately is the desired result achieved

Engaging: How satisfying and smooth the process is for the user

Error tolerant: How the product prevents errors and solves them if they occur

Easy to adapt: How easy it is to learn to use the product and get used to it.

PITCHING

After completing the Design process and arriving at a result, the most important step is to make it reach the right people. This is the final step where we will combine our research, process, and solution and convey it to the people for whom it is designed. Pitch is an opportunity to make our product/service heard, and hence, it is very essential to make it as communicative and convincing as possible.

Some of the guidelines for delivering a good pitch are:

- Support Pitch / Proposal with Research

Being prepared with all the research done in previous stages is one of the greatest ways to elevate the pitch. Having the research articulated well for presenting is a good base for the proposal and for marking evidence for claimed findings. As we dedicate significant amount of time in the design process to the research phase, it is very important for us to highlight research findings.

When pitching, it is important to convince the client or potential funder



that enough research has been conducted in the client's domain and also its competitors in the market. Studying the competitors provides an opportunity to learn what the unique elements of the solution are and to understand the current trends in the market.

Including the research in the presentation can prepare us for answering the questions that the client might have and also clarify the origin of the solution by making relevant connections.

- Make your thought process transparent

As designers we might easily overlook the fact that clients do not have a design background and they might not be able to clearly understand everything we explain (e.g. they may not be familiar with the terminology and approaches). Hence, it is very important to make our thought process transparent while explaining the concept. Some of the benefits of explaining the Design process are:

- It helps clients to follow the decisions taken in the Design project and understand the context better. It provides them with a clear flow and structure of the project, without which they might get confused.
 - It provides evidence for the decisions taken in the project. It portrays dedication.
 - It also gives us confidence when presenting the design and builds the client's trust in our design. Showcasing the process implies that a formal process has been followed.
- Center the pitch around problem solving

Design is born out of the need for problem solving. Hence, it is very important to show the connection between the design solution and the user. The pitch should be able to present the various angles of problem solving that have been tackled during the project. Even though some projects might have aesthetics and functionality as major requirements, connecting them to problem solving will give more sense of purpose to the solution.

Answering several questions to ourselves while preparing for the pitch will make us more prepared to answer the client's questions:

- What is the problem that we are solving?
- Who are we benefiting by solving this problem?
- What is the most effective way of solving this problem that we have identified?

4. Be open to feedback and collaboration

Pitching is intended for us to present our ideas and share the process of how we reached them. However, it may also be an opportunity for clients to share ideas or suggest some improvements. In such situations, instead of dismissing their thoughts, it is useful to consider their opinion and make them feel included the process. This can be the beginning of a

SUMMARY OF KEY POINTS

long-term collaboration with the client.

Finally, the Design Pitch is not just about putting forward our idea for the solution of the problem but also it portrays us as designers. The pitching opportunity can be used as a platform to present ourselves, our values, and our approach as Designers. This might help us to open doors for future collaborations with the client.

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- Feasibility, user testing and pitching are the last stages of finalizing a design project
 - These stages provide an opportunity to test the solution and present it to the clients
 - Usability testing gives an insight into the actual user experience and shows if we achieved our goals in the project
 - Pitching gives a platform to communicate our ideas to the client, but also to present ourselves as designers
 - Pitching is a final opportunity to establish lasting collaboration with the client.

EXERCISES

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- 1) For testing, create a feedback template for the idea created in the previous lecture exercise. In the template, create 5 criteria which you will be evaluating for the particular product / service. (This can be done by taking the idea to the target users)
 - 2) Based on the practical constraints, filter the criteria that you would be immediately able to work upon (min 3/5)
 - 3) Determine 3 action points for each identified criteria that will help you to begin the search
 - 4) For pitching, develop 5 topics that you would like to cover while explaining your idea/solution. Record a 2-minute video of yourself making the pitch.

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<https://www.uxmatters.com/mt/archives/2021/02/5-ways-to-elevate-your-design-pitches-to-clients.php>

